

PATENT  
09/849,022  
Docket 091/005

CLAIM AMENDMENTS

1. *(Currently Amended)* ~~A method of obtaining genetically altered primate pluripotent stem (pPS) cells or progeny thereof, comprising:~~
  - ~~a) providing a composition of pPS cells essentially free of feeder cells; and~~
  - ~~b) transforming a polynucleotide into pPS cells in the composition~~

A method for producing genetically altered human embryonic stem cells, comprising:

  - a) obtaining a culture comprising human embryonic stem cells proliferating on an extracellular matrix instead of feeder cells; and
  - b) transfecting at least some of the cells in the composition with a polynucleotide, thereby producing genetically altered stem cells that are undifferentiated.
2. *(Original)* The method of claim 1, further comprising preferentially selecting cells that have been genetically altered with the polynucleotide.
3. *(Currently Amended)* The method of claim 1, wherein the ~~hPS~~ human embryonic stem cells are cultured in an environment comprising extracellular matrix components and a conditioned medium produced by collecting medium from a culture of feeder cells.
4. **CANCELLED**
5. *(Currently Amended)* The method of claim 1, wherein the polynucleotide comprises a protein encoding region operably linked to a promoter that promotes transcription of the encoding region in an undifferentiated ~~pPS~~ embryonic stem cell.
6. *(Currently Amended)* The method of claim 1, wherein the polynucleotide is selected from ~~the group consisting of~~ an adenoviral vector, a retroviral vector, and a DNA plasmid complexed with positively charged lipid.
7. **CANCELLED**

PATENT  
09/849,022  
Docket 091/005

8. *(Currently Amended)* ~~An undifferentiated human pluripotent stem (hPS) cell genetically altered with a polynucleotide~~  
A cell population comprising undifferentiated human embryonic stem cells, some of which have been genetically altered, wherein the population consists essentially of human cells.
9. *(Currently Amended)* ~~A stably transfected undifferentiated human pluripotent stem cell~~  
A cell population comprising undifferentiated human embryonic stem cells, some of which have been stably transfected, wherein the population consists essentially of human cells.
10. *(Currently Amended)* ~~A population of primate pluripotent stem (pPS) cells, in which at least 25% of the undifferentiated pPS cells have been transfected with a polynucleotide, or are the progeny of such cells that have inherited the polynucleotide~~  
A cell population comprising undifferentiated human embryonic stem cells, of which at least 25% have been genetically altered, wherein the population consists essentially of human cells.
11. *(Currently Amended)* ~~A population of~~ method for producing genetically altered differentiated cells, obtained by comprising differentiating the cells of claim 10.
12. **CANCELLED**
13. *(New)* The cell population of claim 10, in which at least 90% of the undifferentiated pPS cells have been genetically altered.
14. *(New)* The cell population of claim 9, in which at least 25% of the undifferentiated pPS cells have been stably transfected.
15. *(New)* The cell population of claim 9, in which at least 90% of the undifferentiated pPS cells have been stably transfected.
16. *(New)* A method for producing genetically altered differentiated cells, comprising differentiating the cells of claim 9.
17. *(New)* A method for producing genetically altered differentiated cells, comprising:  
a) obtaining a culture comprising human embryonic stem cells proliferating on an extracellular matrix instead of feeder cells;  
b) transfecting at least some of the cells in the composition with a polynucleotide, thereby producing genetically altered cells; and  
c) causing the genetically altered cells to differentiate.

PATENT  
09/849.022  
Docket 091/005

18. *(New)* The method of claim 8, whereby the genetically altered cells are differentiated into neural cells.
19. *(New)* The method of claim 8, whereby the genetically altered cells are differentiated into hepatocytes.
20. *(New)* The method of claim 17, whereby the genetically altered cells are differentiated into neural cells.
21. *(New)* The method of claim 17, whereby the genetically altered cells are differentiated into hepatocytes.
22. *(New)* The method of claim 1, wherein the polynucleotide encodes a drug resistance gene.
23. *(New)* The method of claim 2, wherein the selecting comprises culturing the cells in the presence of a drug to which genetically altered cells in the population are resistant.